

TAT-02-F-06190

**Sampling and Operations Plan for Chemsol Site,  
Off-Site Well Water Samples  
Piscataway, Middlesex County**

**February, 1991**

**Prepared for:  
Michael Neill  
Removal Action Branch  
U.S. EPA Region II  
Edison, New Jersey 08837**

**Prepared by:  
Region II Technical Assistance Team  
Roy F. Weston, Inc.  
Edison, New Jersey 08837**

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Removal Action Branch  
U.S. EPA Region II  
Edison, NJ 08837

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1. PROJECT NAME: Chemsol Site  
Piscataway, Middlesex County, NJ
2. PROJECT REQUESTED BY: Michael Neill  
Removal Action Branch
3. DATE REQUESTED: January 25, 1991
4. DATE OF PROJECT INITIATION: February 6, 1991

5. PROJECT ORGANIZATION AND RESPONSIBILITY:

The following is a list of key project personnel and their corresponding responsibilities:

Michael Neill, USEPA	Project Director
Thomas O'Neill, TAT II	Overall Project Coordination Sampling QC and Operations
Anibal Diaz, TAT II	Laboratory Coordination & QC

6. PROJECT DESCRIPTION:

A. Site Description

1. Site Description:

The Chemsol site (Tang Realty) is located at the end of Fleming Street in Middlesex County, Piscataway, New Jersey. The site is situated on approximately 14 acres of commercial/residential property and is adjacent to a residential area to the north and east. The nearest residential dwelling is 600 feet to the east. A portion of the site is fenced in. A box trailer and one tanker are currently on site in a fenced area.

The Chemsol site was an active facility which operated from the 1950's through 1965. The company purchased organic and inorganic wastes from industries and reclaimed the chemicals for resale, using a solvent recovery process. After a series of industrial accidents, the owner was ordered to remove chemical operations from the site. In 1965, the plant was razed and the PRP vacated the site leaving behind several large mounds of debris. In 1978, the Township of Piscataway rezoned the site from industrial to residential.

In November 1978, the site was purchased by Tang Realty, Inc. Because the NJDEP suspected groundwater contamination, investigations were initiated by Tang in 1979.

The investigations revealed that groundwater underlying the site is contaminated with various volatile organic compounds (VOCs); base, neutral and acid extractable compounds (BNAs); and inorganics. Also, areas with polychlorinated biphenyl (PCB) and VOC contaminated soils have been identified.

In 1984, an Administrative Consent Order (ACO) to perform a Remedial Investigation/Feasibility Study (RI/FS) was entered into by Tang Realty Corporation (Tang), the Potential Responsible Party (PRP), with the New Jersey Department of Environmental Protection (NJDEP). The PRP has been conducting investigations at the site for the past ten (10) years and has been unable to determine the extent of contamination. The NJDEP and the United States Environmental Protection Agency (EPA) conceded that Tang is incapable of performing the necessary studies. On August 23, 1990, the NJDEP transferred the site lead to the EPA and the EPA committed to unilaterally completing the RI/FS.

In 1988, the PRP removed over 3,700 cubic yards of PCB contaminated soils and 4,200 cubic yards of PCB contaminated buried wastes from the site. During these removal activities, buried wastes were uncovered. Several thousand small containers of unknown materials buried on the site were excavated by Tang Realty in 1988. Approximately 25% of the containers were intact and placed in drums with vermiculite.

## 2. Scope:

The potential exists that a groundwater contaminant plume from the site may have contaminated drinking water in the local area. This sampling will confirm or deny the presence of contamination.

B. Laboratory's

All samples will be submitted to the EPA Laboratory, Edison, NJ. An EPA QA/QC Level 2 is required for this project.

C. Objective and Scope

The objective of this project is to provide data pertaining to the nature and quantity of possible contamination in the water of nearby private wells.

The scope of this project entails collecting samples from different locations. The following groups of samples will be taken:

1. Aqueous well-water samples at three (3) locations to be for Volatile Organic Analysis (VOA). The actual number of locations will be based on the availability of access to the properties.

D. Data Usage

The data will provide information as to the extent of potential contaminant migration to the tap of residents in the vicinity of the site with private wells.

E. Parameter Table

1. Aqueous Samples:

<u>Parameter</u>	<u>Sample Matrix</u>	<u>Sample No.</u>	<u>Analy. Mth. Ref.</u>	<u>Sample Prep.</u>	<u>Holding Time</u>	<u>Limit of Detection</u>	<u>Volume</u>	<u>Preserv.</u>
Volatile Organics	Aqueous	*	<del>624</del> 524.2	SW-5030	10 days	***	3 x 40 ml	Cool 4°C

\* The actual number based upon the availability of access to the properties.

\*\*\* All detection limits will adhere to CLP Contract Required Detection Limits (CRDL).

## 7. SAMPLING PROCEDURES:

Sample collection procedures will follow guidelines found in the EPA Test Methods for Evaluating Solid Waste, SW-846, November, 1986. Summaries of the procedures used are shown below.

### 1. Private Wells:

Each domestic potable water supply shall be sampled as close as possible to the pumping well. If possible, the selected location will be one which receives water from the pumping well prior to being treated by any equipment installed on the water supply system. Where this is not possible, such treatment equipment will be turned off if permissible. All treatment systems "on line" between pumping well and sampling point will be noted, including softening, iron removal, turbidity removal, disinfection, pH adjustment, and home carbon filters. Filter screens present on kitchen faucets will be removed where possible prior to sampling for volatile organics to minimize the aeration of the collected sample.

Each well will be pumped in order to evacuate all of the standing water from the pumping and water supply well prior to collecting the groundwater sample. Any water storage tanks between the pumping well and sampling point will also be evacuated prior to sampling. The usual procedure is to let the water run for five minutes. These sampling and evacuation procedures will be adhered to where practical, based upon field evaluation. Any variances from this procedure will be noted in the sample logs.

In sampling drinking water for low level volatiles, sample jars shall be filled with water slowly. The water level shall be at the top of the vial, and have a positive meniscus when the cap is put on. Vials will be checked for air bubbles after they are sealed. This is accomplished by turning the vial over and observing if any bubbles move to the top. The sample will be retaken if any bubbles are observed.

A trip blank, prepared in the office, will be provided to the lab for volatile organic analysis. A field blank, prepared in the field, will be provided to the lab to check for other possible sources of contamination. Also, 1 blind duplicate and MS/MSD will be provided for each 10 samples collected.

8. SAMPLE CONTAINERS:

All sample containers will be I-Chem laboratory precleaned glassware, as specified by the USEPA Sample Management Office Contract Lab Program.

9. SAMPLE LABEL:

Each sample will be accurately and completely identified. All labels will be moisture resistant and able to withstand field conditions. Sample containers will be labeled prior to sample collection. The information on each label will include the following, but is not limited to:

- i. Date of collection
- ii. Site name
- iii. Sample identity/location
- iv. Analysis requested

10. SAMPLE CUSTODY PROCEDURES:

EPA Chain-of-Custody will be filled out and maintained throughout the entire site activities as per TAT Standard Operating Procedures (SOP) on sample handling, Sample Container Contract specifications, and EPA Laboratories SOP. The Chain-of-Custody form to be used lists the following information:

- i. Project name;
- ii. Sample number;
- iii. Number of sample containers;
- iv. Description of samples including specific location of sample collection;
- v. Identity of person collecting the sample;
- vi. Date and time of sample collection;
- vii. Date and time of custody transfer to laboratory (if the sample was collected by a person other than laboratory personnel);
- viii. Identity of person accepting custody (if the sample was collected by a person other than the laboratory personnel);
- ix. Identity of laboratory performing the analysis.

11. DOCUMENTATION, DATA REDUCTIONS, AND REPORTING:

Field data will be entered into a bound notebook. Field notebooks, field data sheets, Chain-of-Custody forms, and laboratory analysis reports will be filed and stored per the TAT Document Control System.



## 12. QUALITY ASSURANCE AND DATA REPORTING:

QA/QC to be furnished by the contracted laboratory in performance of the analysis will (at a minimum) consist of the following measures to ensure accurate data:

1. One trip blank for the water will be provided daily to ensure the integrity of the samples.
2. A blind duplicate each matrix will be submitted for every 10 samples to check the analytical precision. Results will be documented and submitted in the written report.
3. Matrix spike and matrix spike duplicate analysis will also be performed on one sample for every 10 samples of each matrix. Triple volume will be collected.
4. The contracted laboratory will also furnish the following deliverables as warranted:
  - a) GC/MS tuning and calibration standards;
  - b) Copies of all spectral data obtained during performance of analysis. Copies should be signed by the analyst and checked by the Laboratory Manager;
  - c) Data System Printout (quantitation report or legible facsimile (GC/MS));
  - d) Manual work sheets;
  - e) Identification and explanation of any analytical modifications used that differ from USEPA protocol.

All results are to be completed and a written report submitted by the lab to the TAT QC officer within twenty-one (21) days of the Validated Time of Sample Receipt (VTSR).

## 13. DATA VALIDATION:

All steps of data generation and handling will be evaluated by the Project Officer and the Quality Assurance Officer for compliance with the specified requirements. ESD-MMB will perform data validation using current protocol.

## 14. SYSTEM AUDIT:

The Quality Control Officer will observe the sampling operations and subsequent analytical data to assure that the QA/QC project plan has been followed.

15. CORRECTIVE ACTION:

All provisions will be taken in the field and laboratory to ensure that any problems that may develop will be dealt with as quickly as possible. This will be done to ensure the continuity of the sampling program. Any deviations from this sampling plan will be noted in the final report.

16. REPORTS:

Laboratory results and all requested QA/QC information will be submitted to EPA upon completion of sample analyses. Sampling reports will be issued after receipt of laboratory results.

17. PROJECT FISCAL INFORMATION:

Sampling equipment and manpower shall be provided by the Technical Assistance Team (TAT) in coordination with the USEPA. All man-hours expended by TAT will be charged to TDD # 02-9010-0080.

CHEMSOL SITE

OFF-SITE WELL WATER SAMPLING LOCATIONS

WELL WATER SAMPLES

Sample # 093688  
Agurre, Robert & Lenora  
27 Franklin St.  
Piscataway, NJ 08854

Sample # 093683  
Farley, Bobby & Donna  
4615 New Brunswick Av.  
Piscataway, NJ 08854

Sample # 093684  
Ryckman, David & Phyllis  
7 Carpathia St.  
Piscataway, NJ 08854

OTHER SAMPLES

Sample # 093687: Field Blank

Sample # 093688: Duplicate of # 093688 *50 Franklin*

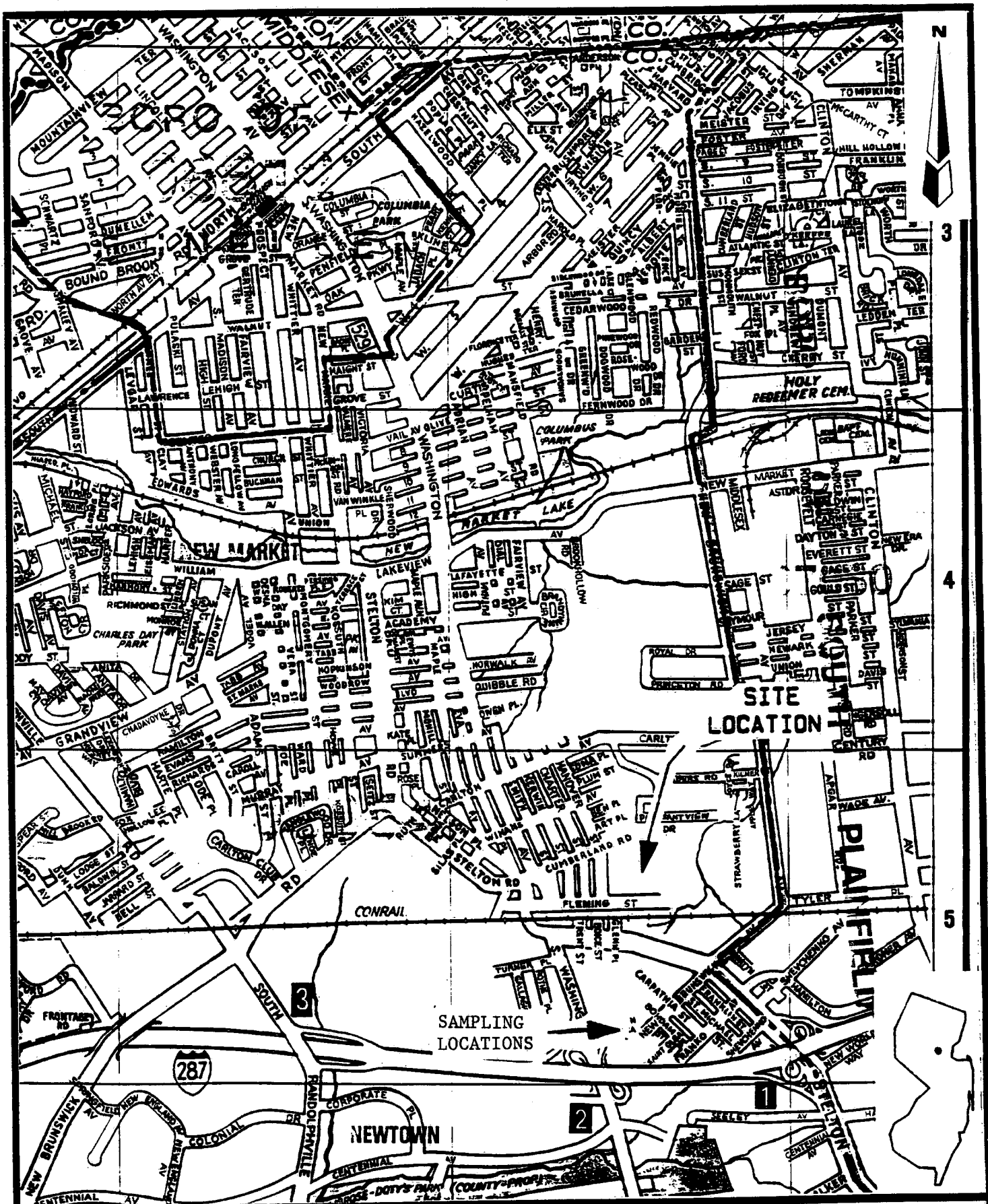
~~Sample # 093678 & 093677~~: Matrix Spike/Matrix Spike Duplicate  
collected from 4615 New Brunswick Av.

Sample # 093685: Trip Blank

**Appendix A**

**SAMPLING LOCATION LIST**

Appendix B  
Site Location Map



SPILL PREVENTION &  
EMERGENCY RESPONSE DIVISION

EPA PM

M. NEILL

CHEMSOL SITE

In Association with ICF Technology Inc., C.C. Johnson & Associates, Inc., Resource Applications, Inc., Geo/Resource Consultants, Inc., and Environmental Toxicology International, Inc.

TAT PM

T. O'NEILL

WELL SAMPLE LOCATIONS